

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less;

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

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cont

SUB 15. (Thrice Amended) A method for operating an optically recordable disk memory comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less, and wherein said hard-carbon coating is an outermost layer of the disk.

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SUB 22. (Thrice Amended) A method for operating an optically recordable disk memory comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less;

wherein said contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

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<sup>sup</sup> 29. (Thrice Amended) A method for operating an optically recordable disk memory comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wavelength of 700 to 800 nm onto said optical disk through said hard-carbon coating ;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less, and wherein said hard-carbon coating is an outermost layer of the disk.

<sup>sup</sup> 36. (Thrice Amended) A method for operating an optically recordable disk memory comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wave length of 700 to 800 nm onto said optical disk through said hard-carbon coating ;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less; wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

<sup>sup</sup> 43. (Thrice Amended) A method for operating an optically recordable disk memory comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having a wave length of 700 to 800 nm onto said substrate through said hard-carbon coating ;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less, and wherein said hard-carbon coating is an outermost layer of the disk.

**Sub 58** 50. (Thrice Amended) A method for operating an optically recordable disk memory comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

**K8** irradiating a laser light having an wave length of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less;

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

**Sub 59** 57. (Thrice Amended) A method for operating an optically recordable disk memory comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

**K9** irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less, and wherein said hard-carbon coating is an outermost layer of the disk.

58. (Thrice Amended) A method for operating an optically recordable disk memory comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less;

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

59. (Thrice Amended) A method for operating an optically recordable disk memory comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less, and wherein said hard-carbon coating is an outermost layer of the disk.

60. (Thrice Amended) A method for operating an optically recordable disk memory comprising the steps of:

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cont. introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less;

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

SUB  
f10 68. (Amended) A method of operating an optical magnetic disk comprising the steps of:  
introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

E10 wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less, and wherein said hard-carbon coating is an outermost layer of the disk.

69. (Amended) A method of operating an optical magnetic disk comprising the steps of:  
introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less,

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

70. (Amended) A method of operating an optical magnetic disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less, and wherein said hard-carbon coating is an outermost layer of the disk.

71. (Amended) A method of operating an optical magnetic disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less;

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

79. (Amended) A method of operating an optical magnetic disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a laser light having an wave length of 700 to 800 nm onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less.

80. (Amended) A method of operating an optical magnetic disk comprising the steps of:  
introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a laser light having an wave length of 700 to 800 nm onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less,

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

81. (Amended) A method of operating an optical magnetic disk comprising the steps of:  
introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a laser light having an wave length of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less, and wherein said hard-carbon coating is an outermost layer of the disk.

82. (Amended) A method of operating an optical magnetic disk comprising the steps of:  
introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a laser light having an wave length of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less;

*Full cont* wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

*SUB F12* 90. (Amended) A method of operating an optical magnetic disk comprising the steps of:  
introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;  
wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less,  
and wherein said hard-carbon coating is an outermost layer of the disk.

91. (Amended) A method of operating an optical magnetic disk comprising the steps of:  
introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;  
wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less,  
wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

*E12* 92. (Amended) A method of operating an optical magnetic disk comprising the steps of:  
introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said substrate through said hard-carbon coating;  
wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less,  
and wherein said hard-carbon coating is an outermost layer of the disk.

93. (Amended) A method of operating an optical magnetic disk comprising the steps of:  
introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less;

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

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101. (Amended) A method of operating a compact disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less, and wherein said hard-carbon coating is an outermost layer of the disk.

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102. (Amended) A method of operating a compact disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less,

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

103. (Amended) A method of operating a compact disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

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irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less, and wherein said hard-carbon coating is an outermost layer of the disk.



104. (Amended) A method of operating a compact disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less;

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

112. (Amended) A method of operating a compact disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having an wave length of 700 to 800 nm onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less, and wherein said hard-carbon coating is an outermost layer of the disk.

113. (Amended) A method of operating a compact disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having an wave length of 700 to 800 nm onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less,

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

114. (Amended) A method of operating a compact disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having an wave length of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less, and wherein said hard-carbon coating is an outermost layer of the disk.

115. (Amended) A method of operating a compact disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having an wave length of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less;

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

123. (Twice Amended) A method of operating a compact disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less, and wherein said hard-carbon coating is an outermost layer of the disk.

124. (Amended) A method of operating a compact disk comprising the steps of:

introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less,  
wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

125. (Amended) A method of operating a compact disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a visible light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less,  
and wherein said hard-carbon coating is an outermost layer of the disk.

126. (Amended) A method of operating a compact disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a visible light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less;

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

134. (Amended) A method of operating an optical disk comprising the steps of:

introducing said optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less.

135. (Amended) A method of operating an optical disk comprising the steps of:

introducing said optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less,

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

136. (Amended) A method of operating an optical disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less, and wherein said hard-carbon coating is an outermost layer of the disk.

137. (Amended) A method of operating an optical disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a semiconductor laser light onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less;

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

145. (Amended) A method of operating an optical disk comprising the steps of:

introducing said optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having an wave length of 700 to 800 nm onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less, and wherein said hard-carbon coating is an outermost layer of the disk.

146. (Amended) A method of operating an optical disk comprising the steps of:

introducing said optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having an wave length of 700 to 800 nm onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less,

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

147. (Amended) A method of operating an optical disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

irradiating a laser light having an wave length of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is 30/mm<sup>2</sup> or less, and wherein said hard-carbon coating is an outermost layer of the disk.

148. (Amended) A method of operating an optical disk comprising the steps of:

introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less;

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irradiating a laser light having an wave length of 700 to 800 nm onto said substrate through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less;

wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

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156. (Amended) A method of operating an optical disk comprising the steps of:  
introducing said optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less, and wherein said hard-carbon coating is an outermost layer of the disk.

157. (Amended) A method of operating an optical disk comprising the steps of:  
introducing said optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a visible light onto said optical disk through said hard-carbon coating;

wherein the number of pin-holes in said hard-carbon coating is  $30/\text{mm}^2$  or less, wherein said hard-carbon coating contains at least one of element selected from the group consisting of Si, B, N, P and F, and wherein said hard-carbon coating is an outermost layer of the disk.

158. (Amended) A method of operating an optical disk comprising the steps of:  
introducing a substrate made of an organic resin or an industrial plastic material, said substrate having a surface protected by a protective film comprising a hard-carbon coating having a thickness of  $500\text{\AA}$  or less;

irradiating a visible light onto said substrate through said hard-carbon coating;